Remarks

Regarding the provisional double patenting rejection, this will be dealt with if still necessary, once the prior art rejections are overcome.

Claim 1 has now been amended to clarify that it relates to managing a communication network partitioned into a plurality of subnetworks. It also now clarifies that the subnetworks are coupled by ports, for traffic services passing between the subnetworks. The method uses a model of a given subnetwork, modelled according to a multiplex layer protocol, and having an off-network pointer for representing one of the ports, and representing a capability of the port for carrying, according to the predetermined multiplex layer protocol, given traffic services exiting the given subnetwork at the given port. Furthermore, the claim also now specifies using the predetermined multiplex layer protocol to deduce and model higher layers of off-network functions for given traffic services.

These amendments are intended to clarify the previous claim 1 to make it more clearly distinguished over the prior art and so do not raise new issues.

There is basis for these amendments in the specification particularly at page 15 in relation to figs 11 and 12, and at page 17 where it states:
"the invention enables logical functionality to be extrapolated up to the point where a "logical pipe" extends across the region to another operator's region, enabling a service to be built across to the other region. The point is ultimately reached where services are offered that can in turn offer services.

In this way, transport to other regions can be provided from not just the edge nodes/Network Elements but from nodes interior to a region/domain. This is made possible because the logical implications of off-network pointers on client layers/protocols are determined."

Compared to the cited references, claim 1 is distinguished by the off-network pointer being used as the basis for deducing and modelling higher layers of off-subnetwork functions for given traffic services. This enables the model of a given subnetwork to model traffic services such as trails to other subnetworks, without the additional complexity of needing access to the internal details of the other subnetworks, which may be owned by other parties, or use incompatible management systems for example. There is no suggestion of this feature, nor of its advantages in the cited documents taken singly or in combination.

Regarding the rejection of all claims for obviousness over Taghadoss in view of Boer et al, this is not applicable to claim 1 as will now be explained. Taghadoss concerns a network management system which can identify the current state of logical and physical entities. These entities and relationships between them are represented by a hierarchy of software objects and object relationships. It is cited as showing a management system for a network having many ports, modelled according to a layer protocol, the network being partitioned into sub networks. It shows communicating between objects of a model, but does not seem to show creating a trail, nor the idea of some ports being for internal use only. So there is no disclosure of a step of identifying which ports are valid for use with other sub networks. The Examiner cites col 10 but this goes no further than describing a relationship between termination points and logical links. Hence it does not disclose the claim feature of the off network pointer.

Regarding Boer, this reference shows access points which were alleged to correspond to off network pointers. However in Boer, the division into subnetworks and access points between subnetworks are proposed for a different purpose. Instead of being part of a model for network management, in Boers they are used for determining links, which is effectively routing. The significance of the access points is explained as follows:

> "the status, in particular the transport capacity on a link to an adjacent network, of each subnetwork being indicated at so-called access points. At

these access points, properties of the network are grouped, i.e. network elements and their properties are represented in a functionally combined way at a higher abstraction level." (col 2 line 39 onwards)

This is confirmed by the passage near the start of col 3 which states:

"partitioning of networks into subnetworks is known per se in communications technology and is described, for example, in CCITT (ITU) Recommendation G.803. The known partitioning of networks does not, however, relate to the determination of links but to the administrative division of a network for the purpose of network management. Certain aspects of the present invention may therefore be regarded, in a certain sense, as an extension to the said CCITT recommendation by making these applicable to the determination of links, as will become apparent from the following. "

Hence the access points of Boer are not the off network pointers in a model of the network as defined in the amended claim 1. As shown in col 4 of Boers, "The determination of links can, however, be carried out more efficiently if, according to the invention, only the available transport capacity, i.e. the transport capacity which is free at that moment, is indicated in an access point. Thus, the situation where a selected link is found to be unusable owing to a high load is avoided. An access point may advantageously represent not just the available transport capacity, but also other factors such as the load level (occupancy factor), the delay and/or the blocking probability of a particular subnetwork.

There is no suggestion here of the distinctive features of claim 1 as discussed above.

Hence these claim 1 would not have been obvious.

Independent claim 5 has been made dependent on claim 1. Claims 9 and 10, relating to networks, have been deleted. Independent claim 11 relating to a network management system has been amended to have similar distinctive features to those of claim 1. Independent claim 12 has been made dependent on claim 11. Independent claims 18-21 relating to user interfaces have been deleted.

Hence all the claims are dependent on claim 1 or have features corresponding to the distinctive features of claim 1 and so are allowable for the same reasons. All the points raised have been dealt with, all the claims are submitted to be allowable, and reconsideration is requested.

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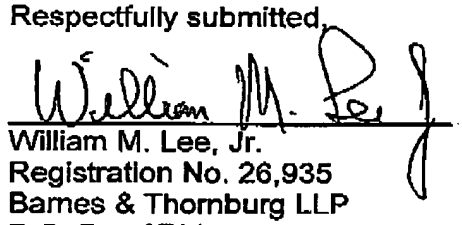
Respectfully submitted,



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